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ABSTRACT

The specific focus of this document is on the evolutionary development of the Neighborhood Educational Center Project supported under Title III, 1965 Elementary Secondary Act, which was marked by continual evaluation and appropriate modification. Application of the concepts of individualized instruction was one of the basic means by which the Neighborhood Educational Center (NEC) Project was to achieve its goals. Developmental activities required for the implementation of an instructional system so oriented included the production of three essential types of components: behaviorally stated objectives, prescriptive packages, and assessment instruments. Student performance data on the NEC objectives are summarized and disseminated in two ways: individual profiles and cluster profiles. These are the bases for information relevant to the implementation, evaluation, and modification of the NEC process. Major emphasis regarding organization for instruction has been placed upon the implementation of the cluster concept as the basic instructional unit in the NEC project. The cluster is intended to provide flexibility, which in turn supports individualization of instruction. A cooperative and supportive relationship exists among the NEC teachers and administrative staff. An important outcome of the NEC project is the verbalized willingness of teachers and administrators to be accountable for student success on the NEC instructional objectives, something quite different from accountability for a standardized test score. (JM)

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ED 058367

AN EXCERPT FROM

EVALUATION OF TITLE III PROGRAMS IN THE DETROIT PUBLIC SCHOOLS

(A Report of the Third Year's Activities)

Part One

prepared by:
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with:
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American Institutes for Research
Pittsburgh, Pennsylvania

September 1971

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PART ONE - GENERAL

I. INTRODUCTION

Consistent with previous practice, this report is compiled in two parts. The first part consists of a general description and evaluation of the project with minimal emphasis upon the presentation of data and associated technical issues. The second part consists of a Technical Supplement and is intended for those who have interest in the more detailed aspects of the evaluation.

For the reader who is unfamiliar with the Neighborhood Educational Center (NEC) Project and its previous documentation, an Historical Overview is presented in Appendix A. Besides providing a summary orientation to the project and its target population, this description portrays the evolutionary nature of the process by which the American Institutes for Research (AIR) evaluation staff and the NEC staff worked together to develop and implement a successful program.

During the third project year, the AIR evaluation staff reviewed surveys of other programs for the educationally disadvantaged conducted throughout the country. This review was designed to provide perspective in viewing the characteristics and accomplishments of the NEC Project. Review of these surveys revealed that the NEC Project incorporates most, if not all, of the features which characterize successful programs and has avoided or overcome the major difficulties encountered by unsuccessful programs. In addition, the detailed documentation of activities and accomplishments which characterizes the NEC Project was found to be disturbingly lacking in 90% of the projects surveyed. The report of this review (Project Memorandum #3) is reproduced as Appendix B.

II. GENERAL DESCRIPTION AND EVALUATION

A. The NEC Process

The evolutionary development of the NEC process was marked by continual evaluation and appropriate modification. This development will be discussed in terms of five areas of concern: (1) the components of the instructional

system, (2) the data for managing the instructional system, (3) the organization for instruction, (4) the relationships among teachers and supervisors, and (5) the accountability for student progress.

The Components of the Instructional System

Application of the concepts of individualized instruction was one of the basic means by which the NEC Project was to achieve its goals. Developmental activities required for the implementation of an instructional system so oriented included the production of three essential types of components. By the end of the third project year this effort had resulted in the following:

1. BEHAVIORALLY STATED OBJECTIVES - The development of over 600 instructional objectives in language arts and mathematics which were behaviorally stated.

2. PRESCRIPTIVE PACKAGES - The development of at least one prescriptive package for each of the instructional objectives.

3. ASSESSMENT INSTRUMENTS - The development of criterion referenced measurement instruments for each objective for the purpose of diagnosis and the assessment of mastery of the instructional objectives.

The behaviorally stated instructional objectives were compiled with the cooperation of the entire teaching staff (approximately 130 teachers). The teachers were each asked to submit a minimum of 10 behaviorally stated instructional objectives. The teachers were not restricted to the curriculum areas to which they were currently assigned as far as the content of these objectives was concerned. The general guidelines for the content of the objectives were that they reflect those skills the teachers felt were most relevant to the students in the NEC project. The teachers were further advised that in no way was it anticipated or necessary that the objectives correspond to an external criterion, such as the Stanford Achievement Test (SAT), or any particular set of instructional materials.

The objectives submitted by the teachers were turned over to committees of teachers and administrators for editing and classification. The evaluation staff and the DPS technical monitor screened the objectives in order

to assure that they were behaviorally stated. The committees categorized the objectives into 28 curriculum areas. In addition to categorizing the objectives, the committees attempted to sequence the objectives such that instruction would proceed based upon mastery of prerequisite objectives.

Prescriptive packages were developed for each instructional objective by a committee of teachers and administrators. The prescriptive package includes a listing or discussion of the instructional objective and at least one recommended way to teach to the objective. Within the prescriptive packages, most of the objectives are "keyed" to commonly available instructional materials and texts. Most of the prescriptive packages also contain a listing of the immediate prerequisites for that objective. The prescriptive packages are intended to be an optional resource for the teacher, i.e., their use is not mandatory.

Two kinds of assessment instruments were developed for the diagnosis of instructional needs and the verification of mastery of instructional objectives.* One was an Objective Referenced Test (ORT), a test which measures performance on only one objective. It typically contains no more than 10 items and takes less than 15 minutes to complete. The other was a Curriculum Embedded Test (CET), a test which measures performance on approximately 6 to 10 related objectives and is intended for broad range diagnosis or mastery.

As with the derivation of the instructional objectives, teachers were directly involved in the construction of the ORTs and CETs. For each of the objectives which the teachers submitted they were asked to submit test items which they felt specifically measured performance on that objective. The test items were screened by a committee of teachers and administrators and by the evaluation staff. The primary concern in this portion of the screening process was the level of vocabulary used and whether or not the item was in apparent correspondence with the objective. There was an immediate spin-off or benefit from the teachers' involvement in writing the objectives and the test items. For instance, prior to writing objectives and items, many teachers and administrators wanted to teach initial language arts

*Student instructional needs in the NEC project are defined with respect to the set of instructional objectives. In this sense diagnosis and mastery are very similar, e.g., in general, if the student does not evidence mastery of the "next" objective (a score of 90%), then his "needs" have been diagnosed.

skills as encoding and decoding. It was discovered that this was too condensed, i.e., too many prerequisite skills were implied. Consequently, encoding and decoding were broken down into "oral language", "written language", "auditory and visual perception", "phonetic analysis", and "structural analysis". The point here is not that one taxonomy is better than the other, but rather that the teachers were involved in a deeper level of analysis of what they were trying to teach. In the opinion of the authors, this kind of teacher behavior which has continued and expanded (for example, into the area of testing) represents one of the most important developments in the NEC project.

The Data for Managing the Instructional System

Student performance data on the NEC objectives are summarized and disseminated in two ways, (1) individual profiles, and (2) cluster profiles. The profiles are the basis for information relevant to the implementation, evaluation, and modification of the NEC process. The purpose here is to discuss these two profiles and introduce a rationale for the adoption of a third type of profile, local criterion profiles. The local criterion profiles will address two issues: (1) increased support to the teacher in terms of the planning and management of instruction, and (2) the establishment of clearer guidelines by which CAPs can evaluate student progress and subsequently evaluate and modify the instructional system.

The individual profiles (see Figure 1) indicate the objectives which have been mastered by a particular student. The profile matrix is two dimensional, the rows represent the 28 areas and the columns represent objectives within each area. The cell entries in the profile, i.e., the numbers, represent the number of instructional days that it took for that student to master that objective (an asterisk indicates that an objective exists at that point which has not been mastered). Following compilation, the individual profiles are returned to the teacher (cluster).

The cluster profiles (see Figure 2) summarize the performance of a particular cluster on the NEC objectives. There are three cell entries for each objective within each area, (1) the mean number of days taken to master the objective by those students who have mastered it, (2) the standard deviation about that mean, and (3) the proportion of the students in that

SCHOOL : 4
GRADE : 5
CLUSTER : B
ID NO. : 4 [illegible]22

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
UL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																		
WL	1	1	1	1	*	*	*	*	*	1	1	*	1	1	1																									
PER	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	1	1	*	1	1																		
PA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	*	1	1	1	1	1	1	1	1	1	1	1									
COM	1	1	1	*	1	1	*	*	1	1	1	1	1	1	1	1	1	*	*	*	*	*	1	*	1	*	1	1	1	1	1	*	1	1	1					
LU	*	*	*	*	39	*	39	39	*	59	*	*	1	1	16	1	1		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	1	1	*	*	*	*	*
DIC	1	1	*	1	1	1	1	1	1	1	1	1	1	1	1	*	1	*	*	*	*	*	*	*	*	*	*	*	*	1	1	*	1	1						
GLO	1	1	1	1	1	1	1	1	1	1	1	1	*	*	*	*	*	*																						
GRA	*	*	*	*	*	*	*	*	*	*	1	*	*																												
IND	*	*	*	*	*	*	*																																	
CAR	*	*	*	*	*																																			
ENC	*	*	*	*																																				
RES	*	*	*	*	*	*	*	*	*	*																														
REF	*	*	*	*	*	*	*																																	
MED	*	*	*	*	*	*	*																																	
PN	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																		
RWC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	*	*	*	*	*	1	*	*	*	*	*	*	*	*	*
A/S	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	1	*	*	1	1	1	1	1	1	1	*	1	*											
M/D	*	*	*	*	*	*	1	1	*	1	1	1	1	1	4	3	5	5	*	*	*	*	*	*	*	*	*													
FR	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MEA	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
GEC	1	1	1	1	1	1	1	1	1	1	1	*	*	*	*	*	1	1	*	*	*	1	*	1	*	*	1	1	1	*	*	*	*	*	*	*	*	*	*	
LOG	*	*	*	*	*	*	*	*																																
NUM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																								
INT	*	*	*	*	*	*	*	*	*	*																														
GRA	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																									
PRC	*	*	*	*	*	*	*																																	

	41	42	43	44	45	46	47
PA	1	1	1	1	*	*	1
LU	*	*	*	*			
RWC	*	*	*	*	*	*	*
FR	*						
MEA	*	*	*	*	*	*	*

* INDICATES NO DATA PROCESSED ON THAT OBJECTIVE

Figure 1. A copy of an individual profile

SCHOOL : 4
GRADE : 5 N= 68
CLUSTER : 8

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
OL	MEAN	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	*	*	*	*	*	*		
	SD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
	PROP	42.6	36.8	41.2	42.6	42.6	8.8	11.8	11.8	11.8	4.4	4.4	10.3	10.3	8.8	7.4	11.8	*	*	*	*	*	*		
WL	MEAN	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0									
	SD	*	*	*	*	*	*	*	*	3.5	*	*	*	*	*	*									
	PROP	66.2	70.6	72.1	51.5	54.4	55.9	57.4	41.2	35.3	50.0	38.2	57.4	47.1	44.1	45.6									
PER	MEAN	*	1.0	*	*	*	*	*	*	*	*	1.0	*	1.0	*	*	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
	SD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
	PROP	*	77.9	*	*	*	*	*	*	*	*	82.4	*	82.4	*	*	77.9	4.4	69.1	67.6	67.6	67.6	64.7		
PA	MEAN	1.2	1.0	1.0	1.0	1.0	1.0	1.0	2.1	2.5	1.1	1.0	1.0	1.0	1.0	1.0	3.6	2.1	1.0	3.8	2.2	1.0	1.0	3.0	1.0
	SD	1.1	*	*	*	*	*	*	3.9	4.4	1.0	*	*	*	*	*	15.6	3.7	*	7.5	5.3	*	*	6.5	*
	PROP	72.1	64.7	69.1	63.8	36.8	69.1	83.8	72.1	77.9	72.1	70.6	70.6	63.2	73.5	50.0	51.5	51.5	30.9	23.5	27.9	36.8	17.6	69.1	32.4
SA	MEAN	1.0	1.0	1.0	1.0	1.2	1.1	1.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	SD	*	*	*	*	*	*	*	16.4	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PROP	11.8	10.3	30.9	50.0	50.0	51.5	45.6	44.1	32.4	67.6	54.4	48.5	35.3	16.2	50.0	33.8	41.2	33.8	14.7	8.8	29.4	7.4	10.3	5.9
COM	MEAN	1.0	1.0	1.0	*	1.0	1.0	*	*	2.3	1.0	1.0	1.7	1.1	1.0	1.0	1.4	4.3	*	*	*	*	*	2.2	1.0
	SD	*	*	*	*	*	*	*	*	3.4	*	*	2.3	*	*	*	1.9	4.8	*	*	*	*	*	3.3	*
	PROP	45.6	45.6	57.4	*	51.5	20.6	*	*	23.5	30.9	44.1	35.3	48.5	36.8	35.3	41.2	30.9	*	*	*	*	*	25.0	25.0
LU	MEAN	27.0	18.6	9.8	12.4	42.7	14.7	17.5	30.1	15.0	41.1	31.6	3.9	10.4	3.2	14.3	6.0	20.3	1.0	1.0	*	*	*	*	*
	SD	27.0	26.3	21.1	19.8	22.0	20.5	23.4	29.9	27.1	34.4	30.0	10.3	16.1	8.5	14.4	11.7	30.0	*	*	*	*	*	*	*
	PROP	77.9	70.6	77.9	67.6	69.1	69.1	73.5	61.8	50.0	33.8	25.0	76.5	10.3	22.1	17.6	17.6	8.8	1.5	2.9	*	*	*	*	*
DIC	MEAN	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	SD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PROP	17.6	38.2	7.4	39.7	35.3	69.1	63.2	60.3	67.6	57.4	29.4	14.7	22.1	27.9	25.0	22.1	22.1	11.8	13.2	16.2	14.7	7.4	10.3	13.2
GLO	MEAN	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	*	*	*	*	*						
	SD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*						
	PROP	51.5	35.3	51.5	52.9	39.7	57.4	11.8	13.2	2.9	67.6	45.6	8.8	1.5	*	*	*	*	*						
GRA	MEAN	*	*	*	*	*	*	*	*	*	*	1.0	*	*											
	SD	*	*	*	*	*	*	*	*	*	*	*	*	*											
	PROP	*	*	*	*	*	*	*	*	*	*	13.2	*	*											
IND	MEAN	*	*	*	*	*	*	*																	
	SD	*	*	*	*	*	*	*																	
	PROP	*	*	*	*	*	*	*																	
CAR	MEAN	*	*	*	*	*																			
	SD	*	*	*	*	*																			
	PROP	*	*	*	*	*																			
ENC	MEAN	*	*	*	*																				
	SD	*	*	*	*																				
	PROP	*	*	*	*																				
RES	MEAN	*	*	*	*	*	*	*	*	*	*														
	SD	*	*	*	*	*	*	*	*	*	*														
	PROP	*	*	*	*	*	*	*	*	*	*														

* INDICATES NO DATA PROCESSED ON THAT OBJECTIVE

Figure 2. A copy of a cluster profile (on the "language" objectives)

cluster who have mastered that objective. While cluster profiles are generally available, they are primarily used by the CAP. CAPs attempt to use the existing cluster profiles in several ways. First, they try to determine whether or not the students in a particular cluster are spread-out on the objectives (extreme homogeneity would tend to indicate that little or no individualization is taking place). Second, they attempt to analyze the depth of student performance within the areas of the NEC objectives. For example, they examine whether or not the students in cluster "x" are moving as far in addition and subtraction as the CAP feels they should. Third, the CAP attempts to ascertain whether or not particular objectives are causing trouble, e.g., they are not being mastered in a reasonable period of time or by enough students. She may find that particular teachers are having difficulty with a particular objective; or, she may find that all of the clusters are having difficulty with that particular objective. In the first case, she may suspect that the teacher does not understand the objective, has not selected a particularly effective teaching approach, etc. In the second case, the CAP would suspect that something is wrong with the system. For example, prerequisite objectives have been omitted by the teachers (or perhaps they don't exist and will have to be added to the NEC objectives), the objective as stated may be ambiguous, the mastery test for that objective or prerequisites may be inadequate, etc. In practice, specifics within the two preceding examples have occurred and modifications where indicated have been made.

The profiles as described above were consistent with the developmental progress of the project. However, as implementation of the objectives and mastery tests became more generalized, the need for more sophisticated or definitive feedback to the teachers became obvious. Teachers have reported (via teacher questionnaires) that the planning and the actual delivery of instruction to a student body with increasingly different needs was becoming increasingly difficult (in all probability the variation among students always existed but was not so clearly recognized by the teachers until the implementation of individual profiles). Given that there is substantial variability at each grade level (and subsequently each cluster) among the NEC students on the Stanford data, one should have an intuitive feel for the problem stated by teachers; the NEC objectives cover a wider range of performance and in much greater detail than does a general achievement test.

It is entirely possible that, for example, a third grade teacher with a heterogeneous group of students (heterogeneous with respect to the SAT) will have to be responsible for instruction on any one of a large list of NEC objectives. Recalling that the teacher is responsible for planning and the gathering of resources in addition to the delivery and assessment of instruction, this is an awesome task. Given that in light of the NEC emphasis upon individualization it would be unacceptable to thwart the variability of treatment to students, and given the problem with planning and delivery as stated above, it is essential to help clusters (teachers) anticipate the instructional needs of the incoming students and the range of these needs. More than anticipate, it will be necessary to provide planning support such that the variability any one teacher must accommodate is minimized (or held to an accomplishable level) while maximizing the range of student needs met. It is trusted that this "statement of problem" lays the groundwork for the development of local criterion profiles.

The local criterion profile would be based upon some operational facet of the school. Initially, in the case of the NEC project, there will be a criterion profile for each grade level. In the case of the first grade, the criterion profile will be a reflection of those skills deemed necessary for the student to benefit from second grade exposure (or before he moves on to the second grade profile). The preceding parenthetical segment implies that the student who is physically located in a first grade cluster and who has finished his first grade criterion profile may either be moved to a second grade cluster or, if the teachers can handle the situation within the first grade, be moved on to the second grade criterion profile. Having criterion profiles will allow the clusters to anticipate the minimal instructional load respective to a group of incoming students. With help, this would allow the teachers to divide the instructional load such that each teacher will have a manageable load. Most likely this analysis and assignment will be performed several times throughout the instructional year (most precisely, as often as the array of student needs in conjunction with the ability to deliver instruction dictates).

The obvious question is how to decide, at least initially, which skills (objectives) will be included in which local criterion profile. Two kinds of inputs will be used: (1) the previous year's performance data, and

(2) the judgments of teachers and CAPs. The evaluation staff is conducting analyses of previous performance data[1] in two ways: (1) mastery of which NEC objectives is critical to success on the external criterion (for the moment call these "critical objectives"), and (2) mastery of which antecedent NEC objectives was related to mastery of the "critical objectives." For example, it has been ascertained that the student's level of mastery in "NEC language usage" is highly related to his level of performance on the external criterion (generally in grades 4-6). It would be an oversimplification to set mastery of NEC language usage as an immediate goal for 4th, 5th, and 6th graders in general, for it is known that students who accomplish a number of language usage objectives have also accomplished a number of antecedents (correlates), for example, mastery in structural analysis and phonetic analysis, which was in turn preceded by mastery in oral language, written language, and perception. As indicated above, it would be unwise[2] to use only the previous year's SAT performance data in establishing local criterion profiles. For one reason, one would be limiting the set of objectives to those things measured (perhaps those things measured adequately) by an achievement test. For another, it would be failing to take into account the judgment of NEC instructional personnel as to what should be taught.

Table 1 has been included in this report as an example of one type of data analysis that is going into the construction of the local criterion profiles. The data in Table 1 indicate that the 1971 first graders worked in seven NEC areas. Recalling that the expected level of performance for the end of first grade was 18 months of achievement, one can search through Table 1 for those levels of NEC mastery which were associated with grade level performance on the external criterion.

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[1] These analyses will be presented in detail in a project memo now in preparation for fall ('71) submission.

[2] As a further contraindication, analyses have revealed that while success on some of the NEC objectives does not directly relate to performance on the external criterion, success on these objectives does relate to success on other NEC objectives which in turn relate to success on the external criterion.

TABLE 1

Grade 1, 1971, Average Performance (Grade Level Equivalents, Expected = 18) on each Subtest of the Stanford Achievement Test P1 Form X as a Function of Performance on NEC Objectives (Farthest Objective Mastered in the Designated Area)

Area	Farthest Objective Mastered	Percent of Students	Word Read	Para. Mean.	Voc.	Spell.	Word Stdy.	Arith.
Oral Lang.	0-3	21.2%	14	14	16	14	17	15
" "	4-6	30.0%	16	16	18	18	19	16
" "	10-13	7.5%	17	17	20	16	19	17
" "	16	41.3%	19	19	24	19	23	20
Written Lang.	0-1	42.5%	15	15	16	14	18	15
" "	2-3	15.6%	17	17	22	17	20	19
" "	4-8	41.8%	19	19	23	21	23	19
Percept.	0-12	20.6%	14	14	15	13	17	15
"	13-14	20.0%	15	15	17	14	16	15
"	18-20	59.4%	19	19	22	20	23	19
Phon. Anal.	0-2	56.9%	16	16	17	15	19	16
" "	4/10/12/	43.1%	19	19	23	20	22	20
Pre. Numb.	0-11	13.1%	17	17	16	13	19	16
" "	12-19	22.5%	16	15	18	16	19	16
" "	20-22	64.4%	18	18	21	19	21	18
Read Write Count	0-6	26.3%	15	15	15	12	16	14
" " "	7-14	26.3%	16	16	17	17	19	16
" " "	15-22	33.8%	19	19	20	21	23	18
" " "	28-31	13.8%	19	18	32	19	23	24
Add Sub.	0-4	63.1%	16	16	17	16	18	15
" "	8-9	20.6%	17	16	18	18	21	17
" "	15-16	16.3%	22	23	34	21	17	26
" "								

Organization for Instruction

The topic of concern here is the organization for instruction, specifically as it relates to planning for instruction. Major emphasis has been placed upon the implementation of the cluster concept as the basic instructional unit in the NEC project. Planning for and the delivery of instruction is to occur within the cluster. The tone of the evaluation here is that during the fourth year of the project much more emphasis must be placed upon behaviorally defining the role of the cluster and evaluating the degree of implementation of that role and, subsequently, evaluating the impact of that role upon student performance on the NEC objectives.

Globally stated, the cluster is intended to provide flexibility; the flexibility in turn is to support or promote individualization of instruction. Ignoring mode of instruction, the concept of "flexibility" can be brought to bear upon three activities: (1) deciding which objectives are to be taught at which time, (2) deciding to whom they are to be taught, and (3) deciding by whom they are to be taught. These three activities focus upon the major instructional resource, the teachers' effort. As discussed on page 20 the NEC teachers have reported that the problem of monitoring and delivering instruction to a group of students with diverse profiles is becoming quite difficult. The central theme introduced here is that the problem can be somewhat ameliorated by more effective cluster planning (which all relates back to behaviorally defining the role of the cluster).

It is essential to be able to demonstrate that the cluster (consisting of extra teacher service at substantial expense) clearly facilitates the teachers' ability to manage and implement individualization of instruction which subsequently leads to student performance on the NEC objectives.

At this time it is not "objectively clear" that systematic cluster planning is taking place in the NEC project. The evaluation staff recommends that each cluster (in conjunction with the CAPs and evaluation staff) derive a formal statement outlining the operational rationale for each of the clusters. It is <u>not</u> suggested that there is to be only one type of operating rationale across the project. The only commonality among cluster operating rationales is that they clearly address how the following decisions are made.

1. Which objectives are to be taught at which time.

2. To whom they are to be taught.

3. By whom they are to be taught.

Once the operating rationales are developed for each cluster, observations will be made to establish that the defined rationale is implemented. Along with the observations of implementation, the teachers will be interviewed as to the strengths and weaknesses of their particular method of operation.

The final evaluative step will be to ascertain the relationships between the way in which the different clusters operate and the extent of student performance on the NEC objectives.

Relationships Among Teachers and Supervisors

The acceptance and visibility of the NEC instructional objectives have been instrumental in fostering a cooperative and supportive relationship among the NEC teachers and administrative staff. As compared to situations where supervisory/instructional interactions are formalized visitations loaded with anxieties and ambiguities, both the teacher and the administrator in the NEC project are aware of the instructional needs of the concerned students. Likewise, both are aware of the progress made on the instructional objectives. The individual and cluster performance profiles are the mechanisms which bring about this mutual diagnosis of progress. The key factor here is that the objective diagnosis of progress allows either the teacher or the administrator to initiate contact; and further, it is clear to both whether or not the specific problem has been addressed and resolved. The teacher is aware of whether or not she has been given substantive help and the administrator is aware of whether or not she has been effective at isolating and resolving an instructional problem.

Accountability for Student Progress

In light of the current interest in performance contracting, an important and relevant outcome of the NEC project is the verbalized willingness of teachers and administrators to be accountable for student success on the NEC instructional objectives (the reader should take care to contrast the preceding with accountability for a standardized test score). Several critical factors underlie the acceptance of accountability by teachers and administrators in the NEC project.

1. The instructional objectives were developed by and with the approval of representatives of teachers and administrators. The initial set of objectives was the result of inputs from all teachers and administrators.

2. The performance measures (ORTs and CETs) were developed and approved by representatives of teachers and administrators. As with the instructional objectives, the initial pool of items for the CETs and ORTs was the result of inputs from all teachers and administrators.

3. An information support system has been developed (individual and cluster profiles) to facilitate instructional planning, delivery, and evaluation. In cooperation with teachers and administrators this feedback system is undergoing continual modification in order to provide additional or more sophisticated support to the instructional staff.

4. The entire process (i.e., objectives, tests, profiles, roles, etc.) is geared to promote and respond to needed changes. Mechanisms are immediately available to teachers and administrators through which recommended changes or criticisms are responsively processed.

5. Data analysis procedures have been implemented which ascertain two types of relationships. First, analyses of the relationships among student performance on the NEC objectives give the teacher a feel for the implications of current performance in relation to projected instructional activities. The relationships among student performance on the NEC objectives is the "heart" of the feedback system, for it is instruction on these objectives which the teacher has under her control. (Contrast the degree of visibility and control the teacher has over student success on the NEC objectives with the at least obscure or indirect control of a student's score on a nationally normed standardized achievement test.) Second, through analysis of the relationships among student performance on the NEC objectives and performance on the external criterion (Stanford Achievement Tests), teachers, administrators and particularly "central level" administration are provided assurance that "their local objectives" have external credibility. The authors feel obligated to assert that the second type of relationship is at best an insufficient degree of external validity. Meaningful credibility for an isolated objective should be based on the fact that it enables a student to benefit from further related instruction or, in general, that instruction on the objective enables the student to cope with his environment.

The authors strongly urge the reader to consider the NEC process as an alternative to the current "character" of performance contracting. We are not suggesting that the NEC objectives or mastery tests be adopted per se, but that the process by which they were adopted is both a generalizable and highly acceptable way in which to arrive at instructional accountability.